

Is Open Access to One Health Equivalent Across Human, Environmental, and Animal Health?

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Background

A One Health collaborative seminar series for Spring 2012 involving North Carolina State University, Duke University and University of North Carolina at Chapel Hill provided a range of topics representing investigations in the three areas comprising One Health: human, environmental, and animal health.

We hypothesized there was more open access (OA) to human health articles in biomedical journals and environmental health articles than to articles in animal health or other subjects.



Web site for the tri-institutional One Health course, showing the 8 modules from which the topics for this project were drawn.

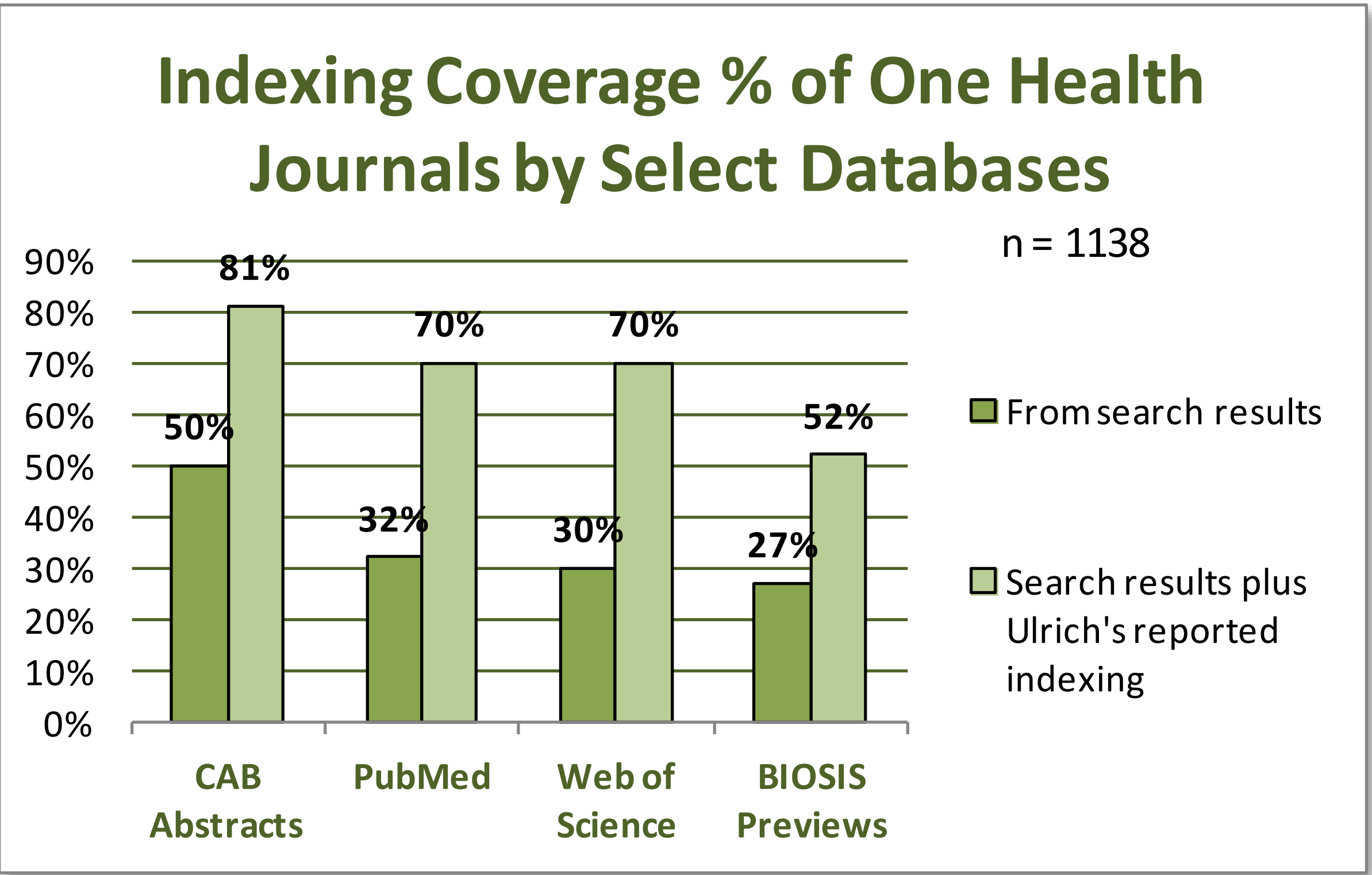
<http://onehealtheducation.blogspot.com/p/modules.html>

Methods

A veterinary librarian translated each seminar topic into a search strategy, using seminar reviews on the course blog to assist with keyword selection. After consulting with course co-coordinator to confirm search strategy, the librarian searched across a group of databases relevant to One Health, limiting results to journal articles from 2011-2012. Results for each of 15 topics were examined for overlap, and each unique article was described in terms of database coverage.

Two independent investigators assigned the article to a broad subject area: human, environmental, or animal health, all, other, or a combination of two of the three subjects. They then assigned a subject to each unique journal, using the same categories. Indexing coverage, country of publication, and full-text access were found for each journal in Ulrich's or the journal website. We then analyzed indexing and open access for the broad subject categories.

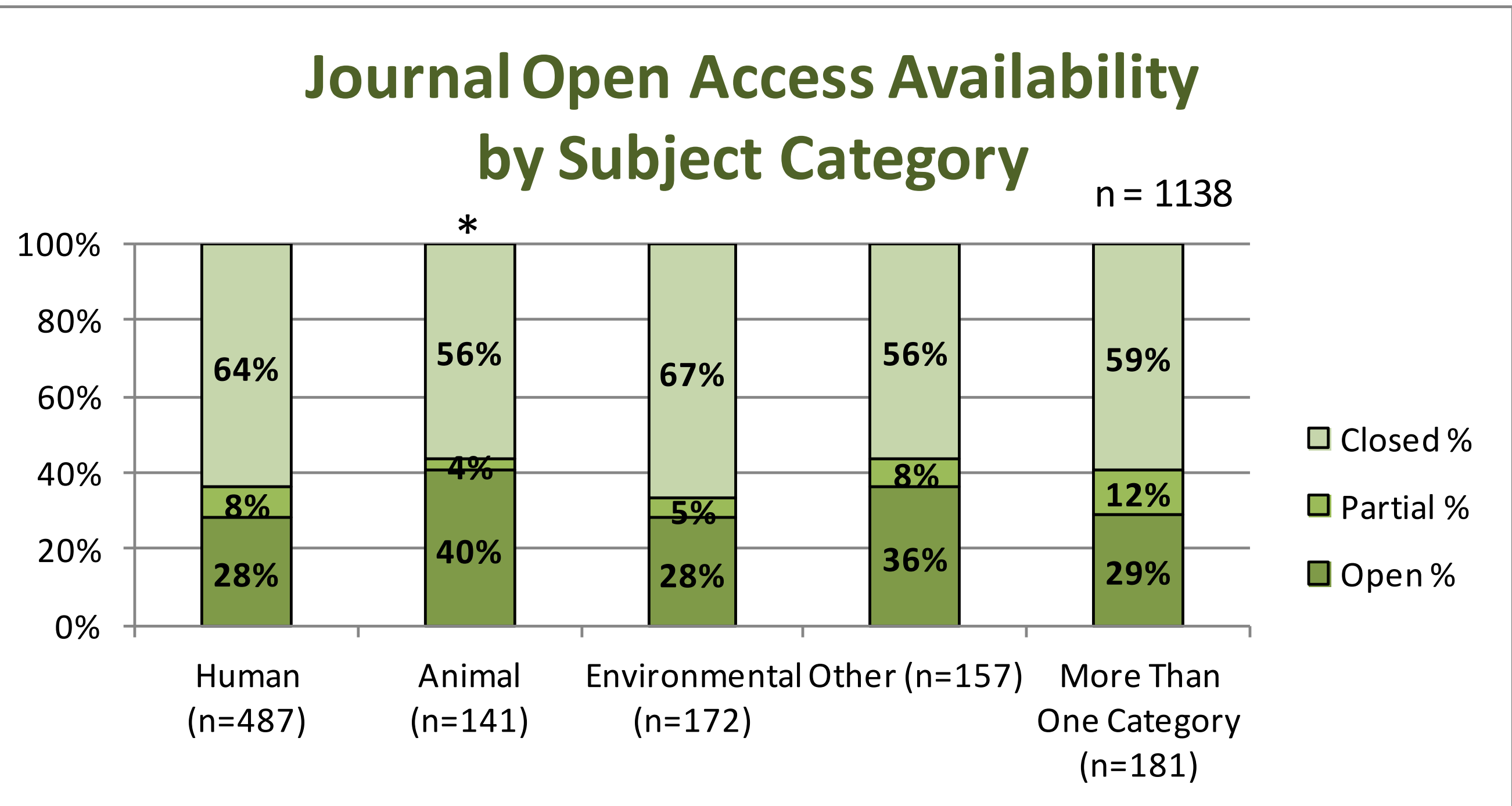
Results



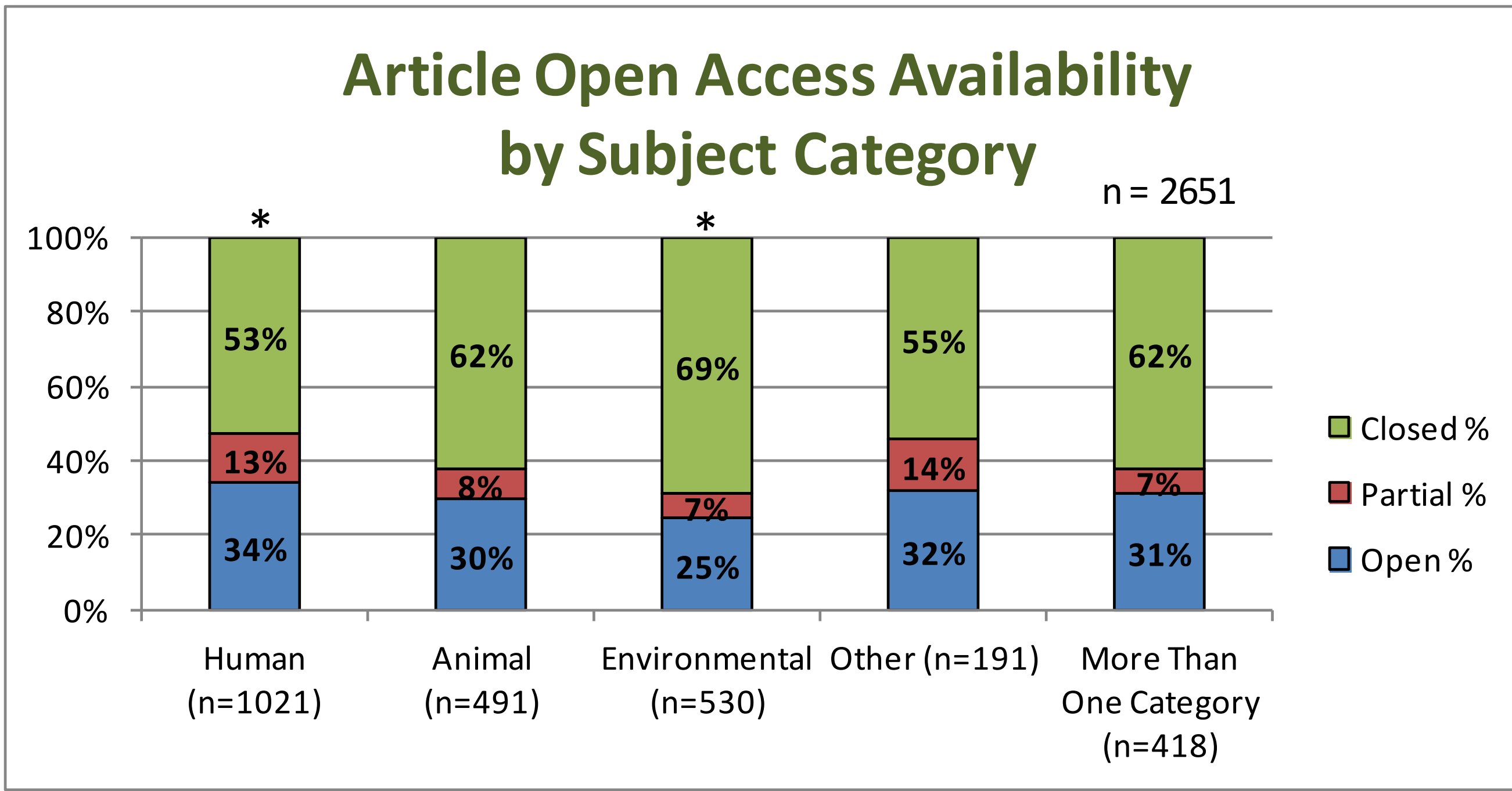
Country	# of Journals	Country, contd.	# of Journals
United States	307	Japan	16
United Kingdom	259	Australia	14
India	84	Switzerland	14
Netherlands	71	Poland	13
Germany	58	South Korea	12
China	39	Kenya	11
Brazil	36	Russia	10
France	18	Turkey	10
Italy	18	Canada	9
Pakistan	18	Nigeria	8



Image courtesy of Dr. Mo Salman, College of Veterinary Medicine and Biomedical Sciences, Colorado State University



*Animal proportion of OA differs significantly from human, environmental, and multiple category proportions (p=0.0062).



*The only statistically significant difference between these groups is between Human and Environmental (p=0.0003).

The 1138 journals that we identified were published in 62 different countries. Represented here are the 20 countries with the most One Health-related journals in our findings.

Journal Title	Count of Articles Per Journal Title	OA Embargo Duration in Months	Open Access Status		
			Yes	Partial	No
Emerging Infectious Diseases	84		Yes		
EcoHealth	79	n/a			No
PLOS ONE	52		Yes		
American Journal of Tropical Medicine and Hygiene	38	12		Partial	
Zoonoses and Public Health	29	n/a			No
Vector Borne and Zoonotic Diseases	26	n/a			No
Applied and Environmental Microbiology	21	6		Partial	
PLOS Neglected Tropical Diseases	20		Yes		
Veterinary Parasitology	19	n/a			No
Journal of Water, Sanitation and Hygiene for Development	18	n/a			No
Veterinary Record	18	n/a			No
Current Topics in Microbiology and Immunology	17	n/a			No
Pediatric Infectious Disease Journal	17	n/a			No
Science of the Total Environment	17	n/a			No
Vaccine	17	n/a			No
Clinical Infectious Diseases	16	n/a			No
Journal of the American Veterinary Medical Association	16	n/a			No
Journal of Pharmacy Research	15	n/a			No

Top 18 journals by frequency counts of articles, with open access status of journals.

Conclusions

The 406 journals from which more than one unique article was retrieved represent 1,919 (72%) of the 2,651 unique articles. An additional 732 journals contributed a single citation, showing the breadth of One Health literature. Findings about open access across the entire range of journals show that open access to animal health journals is significantly higher than in journals focused on human health, environment, other disciplines, or multiple categories. However, this difference goes away when the analysis focuses on the proportion of articles that are open access. At the article level, the open access to human category is significantly greater than environment, but not significantly different than animal, multi-category or other. The change in proportions of open access in the findings at the journal title level versus the individual article level analysis can be explained by the large number of open access journals that contributed only a single citation to the study.

A small number of journals contributed high numbers of articles to the study and only a few of those major contributing journals are open access. Advocacy for open access to authors publishing in high article count, closed access journals such as *EcoHealth* (79 articles) is crucial to improving access to One Health knowledge.

References

- Barrett MA, Bouley TA, Stoertz AH, Stoertz RW. Integrating a One Health approach in education to address global health and sustainability challenges. *Frontiers in Ecology and the Environment*, 2011; 9(4):239-45.
- Statistical significance calculations performed using: Sergeant ESG. EpiTools epidemiological calculators. AusVet Animal Health Services and Australian Biosecurity Cooperative Research Centre for Emerging Infectious Disease. 2013. Available at: <http://epitools.ausvet.com.au>